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1220 L Street, Northwest
Washington, D.C. 20005

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Finance, Accounting, and Statistics Department

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SUMMARY

U.S. petroleum consumption rose only marginally in 1993, but because of the continuing decline in domestic crude oil production, the underlying need for imports increased. Largely as a result of this, total petroleum imports rose 7.8 percent to 8.5 million B/D, and amounted to nearly 50 percent of domestic deliveries—the highest share ever. The previous peak had been 47.7 percent in 1977.

Paradoxically, imports in 1993 were some 300 thousand B/D lower than they had been sixteen years previously. But because consumption was also lower—by nearly 7 percent—total imports' share for 1993 was still calculated at 49.5 percent, a larger share of a smaller total. Putting a slightly longer perspective on current petroleum consumption, it is interesting to note that domestic consumption in 1993 was roughly the same as in 1973, the year of the Arab oil embargo. But much else has changed since then (see accompanying article, page 6).

With the year's domestic consumption rising only marginally, the largest single factor behind the increase in imports was declining crude oil production. Total domestic crude oil output for 1993 fell 4.3 percent, or more than 300 thousand B/D, to its lowest level since 1958. This was nearly 30 percent below the 1970 peak of over 9.6 million B/D. The decline rate lessened by the fourth quarter to 2.6 percent, or about 180 thousand B/D, because of several developments, including additional gas-handling facilities on the North Slope and the coming onstream of the Point McIntyre field. As a result of these events, year-end Alaskan crude oil output nearly matched year-ago levels.

As for demand, although economic growth got off to a slow start in the first half of 1993, for the year as a whole it managed to roughly match 1992's 2.6 percent rise. Nevertheless, growth in petroleum deliveries slowed to only 0.4 percent from 2 percent in 1992 because of slower growth outside the major products. For the fourth quarter, deliveries actually declined 0.6 percent. With petroleum deliveries rising only about 60 thousand B/D, oil's share of total energy consumption fell to just over 40 percent, its lowest level in more than forty years.

For the major light products, increases in deliveries for 1993 were either the same or slightly stronger than in 1992. Gasoline deliveries rose 1.5 percent for the year, up marginally from the 1.1 percent increase for 1992. Distillate deliveries' increase of 2.1 percent was roughly the same as for the prior year. For kerosine jet fuel, deliveries's growth of 3.3 percent in 1993 surpassed the 1.1 percent of 1992, despite slower growth in air traffic. But residual fuel oil, which has fallen every year for the past five years, dropped 6.3 percent, slightly more than in 1992.

Despite slower overall growth in deliveries in 1993 than in 1992, the increase in refinery activity was stronger. Input to distillation units rose 2.0 percent in 1993, up from the 0.7 increase of 1992. With inputs estimated distillation capacity falling by 2 percent, utilization of U.S. refining capacity reached 91.5 percent, the highest annual rate in at least twenty years.

Total inventories ended 1993 at a level 63 million barrels higher than for 1992, putting them at their highest year-end level in seven years. Distillate stocks at the end of December stood at 145 million barrels, also at the high end of recent-year experience for the month. Although the need to keep the newly-mandated low-sulfur product separated from the high-sulfur variety may have added to minimum inventory requirements, year-end distillate stocks still appeared more than adequate.

PRODUCT SUPPLIED

Energy

OILS' SHARE DROPS. Paralleling the pattern of economic growth, total U.S. energy consumption rose for the second year in a row in 1993. The increase in energy consumption of 2 percent, as with the 1.3 percent rise in 1992, still lagged behind growth in the economy, estimated at around 2.6-2.8 percent for both years.

Since the late 1970s, petroleum consumption has regularly grown less or declined more than overall energy consumption, and this trend continued in 1993. As a result, oil's share of total energy consumption fell to just above 40 percent, its lowest in more than 40 years. Oil's share had peaked at 48.7 percent in 1977.

Compared with petroleum, growth rates in 1993 for all the other major energy sources were stronger. For the seventh year in a row, natural gas consumption increased more (or declined less) than that of petroleum. Continued growth, particularly in industri-

	API ESTIMATES DECEMBER		YEAR-TO-DATE	
	Million B/D	Percent Change	Million B/D	Percent Change
Total domestic deliveries	17.8	(1.3)	17.2	0.4
Crude production	6.9	(2.8)	6.9	(4.3)
Total imports	8.4	6.9	8.5	7.8
Stocks (million bbl)	1,080	6.2	na	na

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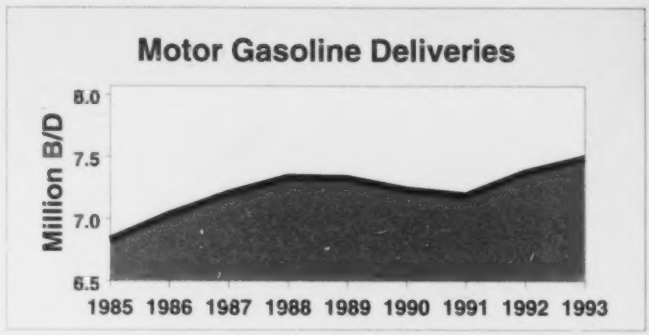
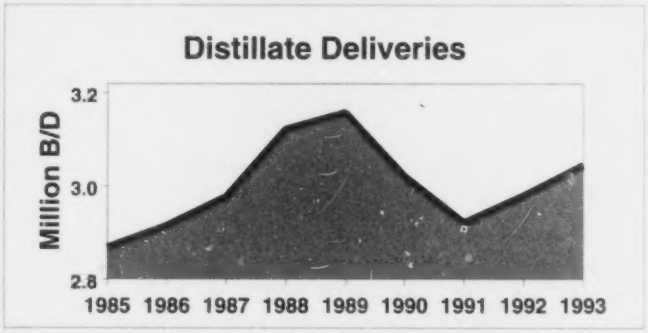
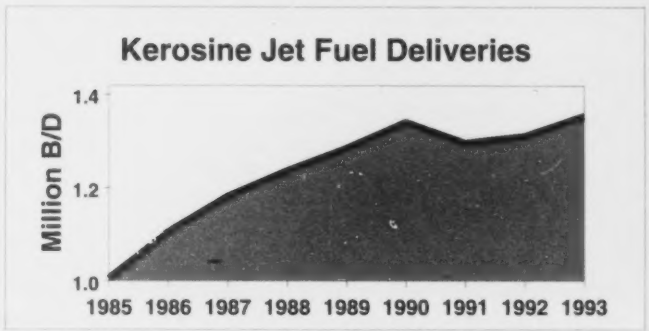
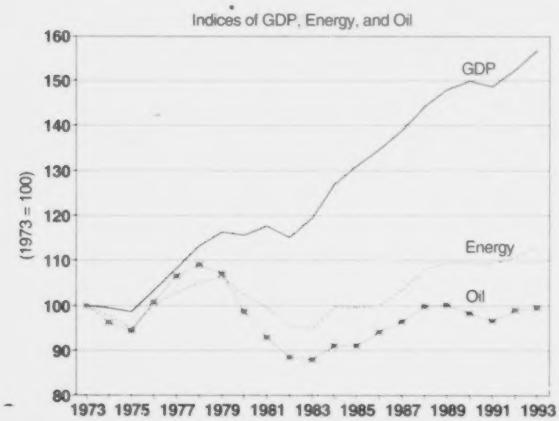






al use of natural gas, contributed to an estimated 3 percent rise. In fact, over the past five years, industrial use of natural gas has risen roughly 20 percent, twice the rate for residential/commercial usage. For coal, growth in electricity generation led to a roughly 3 percent increase in consumption for 1993. Nuclear generation rose slightly as well, and hydro generation bounced back from depressed 1992 levels with an increase of around 10 percent.



The energy intensity of the U.S. economy has continued to inch downward in recent years, though at a slower rate than in the 1970s and early 1980s. As measured by BTUs consumed per dollar of Gross Domestic Product, energy intensity apparently declined slightly in 1993, and has fallen 3 to 4 percent over the past five years. Over the same five-year period, petroleum intensity—oil consumed per dollar of Gross Domestic Product—has fallen more than twice that amount, or 9 percent. Since the early 1970s, overall energy intensity in the U.S. has dropped roughly 28 percent, while conservation and fuel switching has reduced petroleum intensity by 37 percent.

ESTIMATED ENERGY CONSUMPTION BY FUEL GROUP
(Quadrillion BTU)

	Consumption			Market Share		
Fuel	1992	1993	Percent Change*	1992	1993	Change (percentage pts.)
Coal	18.9	19.5	+3.2%	22.9%	23.2%	+0.3
Natural Gas	20.1	20.8	+3.2%	24.4%	24.7%	+0.3
Petroleum	33.6	33.7	+0.1%	40.9%	40.1%	-0.8
Other	9.7	10.0	+3.7%	11.8%	12.0%	+0.2
Total	82.3	84.0	+2.0%	100.0%	100.0%	

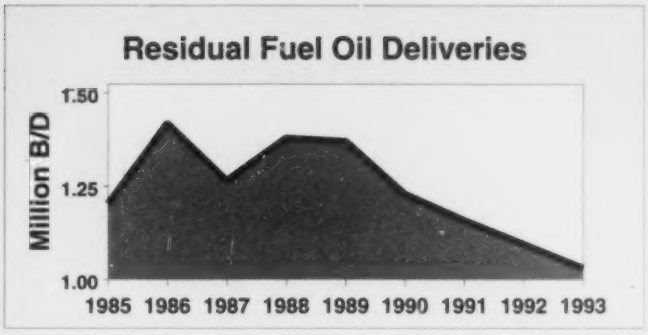
* Because 1992 was a leap year and data here are presented as annual totals, the percentage change for petroleum will differ slightly from that computed using data in daily averages (as is done elsewhere in this Report).

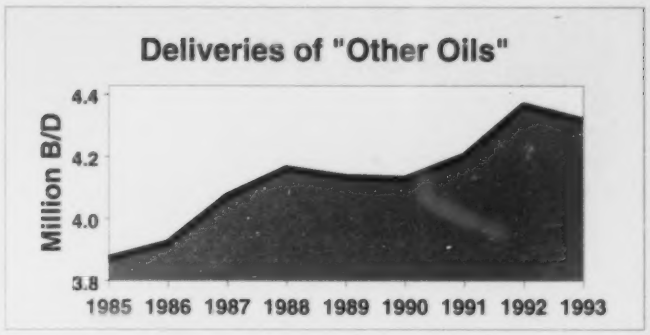
Data presented here do not include the smaller, but non-negligible category of fuels such as most wood, waste, wind, geothermal, and solar, which are for the most part not commercially bought or sold and are not measured with the timeliness or accuracy of the major energy sources.

Gasoline

CONSUMPTION INCHES AHEAD. Gasoline deliveries rose 1.5 percent in 1993, slightly more than the 1.1 percent increase in 1992. Fourth quarter deliveries rose a stronger 1.9 percent. However, most other indicators suggest that actual consumption growth may not have been any greater in 1993 than in the prior year.

First, economic growth, in the end, did not work out to anything much different from 1992's 2.6 percent, suggesting little change in the rate of growth of gasoline consumption. Second, current preliminary data on miles traveled showed a gain on the order of 2.5 percent for 1993, down half a point from the 3 percent rise in 1992. Although the correspondence between travel data and gasoline deliveries has never been perfect, this at least





does not suggest any stronger growth for gasoline consumption in 1993 versus 1992.

Finally, retail prices averaged only slightly lower than in 1992, and thus likely had little impact on consumption. Retail gasoline prices did end the year nearly 7 cents lower than a year earlier, even with October's 4.3 cent per gallon increase in the Federal tax rate and several state tax increases. But for the year as whole, the average price for unleaded regular fell only about 1.5 cents.

Shares by grade changed little in 1993 versus the prior year. Unleaded regular still held roughly two-thirds of the market, according to Department of Energy data, while premium remained at about 20 percent. Midgrade unleaded claimed 12 percent and leaded regular's shrinking share amounted to only 1 percent. In terms of oxygenated versus conventional gasoline, the former accounted for 16 percent of deliveries for the year as a whole and 27 percent—over 2 million B/D—in the fourth quarter.

(**Note:** 1992-93 deliveries comparisons here are based on 1992 data, as published by the Department of Energy, adjusted to be comparable with 1993 deliveries data, which are on a slightly higher basis. This is because 1993 data now include ethanol blending as well as a statistical adjustment to reconcile blending component data. Without re-casting 1992 data, the year-to-year growth for 1993 would be overstated).

Distillate Fuel Oil

HIGHWAY DIESEL STILL MAIN FACTOR IN DEMAND GROWTH. Continued growth in on-highway diesel fuel consumption remained the largest factor driving the growth in distillate fuel oil for 1993. Distillate deliveries' 2.1 percent increase for the year was the second in a row, roughly matching that of the previous year. Fourth quarter deliveries rose 3.6 percent. Demand for on-highway diesel is estimated to have risen 3-4 percent in 1993, as this sector continued to gain market share in overall distillate fuel oil demand. But at least as conspicuous in 1993 as its market share, which has risen from 38 percent to nearly half of the distillate market in ten years, was the implementation of government requirements for low-sulfur diesel for this growing sector.

The rule entailed significant changes in logistics and storage in order to handle two grades of fuel instead of one, and refiners spent an estimated $3 billion in order to meet the new requirements. Although things got off to a bumpy start in October in some regions because of flood-related pipeline problems in the Midwest and a combination of refinery and other problems in California, high production levels at refineries of low-sulfur diesel helped to smooth out initial difficulties within a short period. Over the fourth quarter as a whole, low-sulfur diesel accounted for over 50 percent of total distillate fuel oil deliveries.

Railroad use is also estimated to have risen in 1993, with rail ton-miles increasing about 3 percent. Industrial, electric utility, water transportation, and off-highway uses also likely experienced increases, although their overall contribution to distillate's growth as a whole may not have been substantial.

Residential and commercial use changed little in 1993. An unusually cold first quarter put the year as a whole at about 5 percent colder than 1992 nationally. However, the effect on heating oil demand was perhaps only 10 thousand B/D or so, once averaged over the entire year.

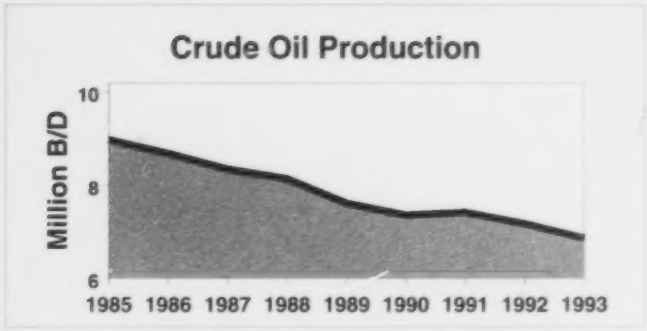
Kerosine Jet Fuel

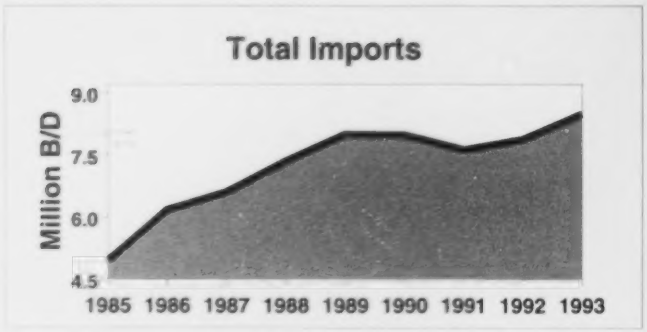
DELIVERIES RISE MORE THAN GROWTH IN AIR TRAFFIC. For 1993 as a whole, jet fuel deliveries increased 3.3 percent over 1992. After growing over 6 percent during the first half of the year, deliveries during the second half were slowed to a modest 4 percent. At 1.427 million B/D, deliveries for December increased only 1.2 percent compared to the same period a year ago.

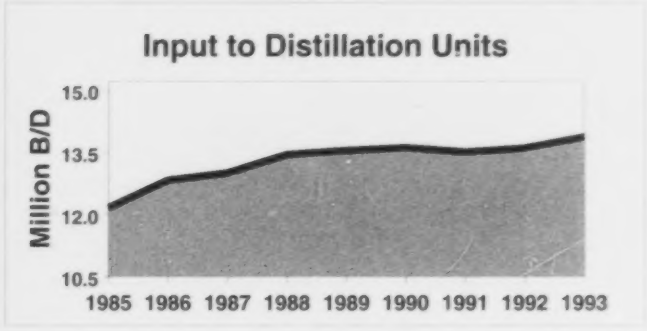
Despite the slower growth during November and December, deliveries of jet fuel exceeded indicators of underlying commercial consumption for the year as a whole. Based on estimates of the growth in air miles flown and air cargo ton miles, we estimate that the underlying growth in jet fuel use by U.S. airlines increased only 1-2 percent, or by approximately 20 thousand B/D. The balance of the increase in jet fuel deliveries can be attributed to increased liftings by the U.S. military due to the West Coast switch from jet-naphtha to jet-kerosine and by increased blending with diesel fuel.

On October 1, U.S. bases on the West Coast were to switch from burning jet-naphtha to burning jet-kerosine. This increased fourth quarter deliveries to the military to approximately 140 thousand B/D, or by 80 percent compared to the same period of 1992. For 1993 as a whole, deliveries to the military averaged roughly 100 thousand B/D, an increase of nearly 40 percent over 1992.

It appears that 1993 provided more opportunities than 1992 for incremental blending into diesel fuel. Colder weather during the first quarter coupled with increased blending to satisfy the new low-sulfur requirements for on-road diesel fuel also helped to increase jet deliveries. Since some grades of jet fuel contain less







than 0.05 percent sulfur by weight and as prices moved into parity with diesel fuel prior to October 1 and again during December, it is likely jet fuel deliveries were increased.

Residual Fuel Oil

DOWN FOR THE FIFTH YEAR IN A ROW. For the fifth consecutive year, deliveries of residual fuel oil fell. At 1.025 million B/D, residual fuel oil deliveries declined 6.3 percent and were at their lowest level since 1941. Despite improved market conditions during the summer along with more competitive prices vis-a-vis natural gas during the second half of the year, the declining trend in resid deliveries was only tempered, rather than reversed.

Deliveries of residual fuel have tended to be more volatile than deliveries of other major refined products, primarily because of resid's role as a swing source of supply to electric utilities during periods of peak demand. During the third quarter of 1993, when electricity output increased by nearly 6 percent over the same period of 1992, resid deliveries also increased, rising about 14 percent. While this increase was due primarily to the extremely cool summer in 1992, it was not sufficient to offset the declines experienced during the first half. With the moderate winter temperatures in the Northeast during the fourth quarter, the need for electricity generation for space-heating purposes declined, which also furthered the decline in resid deliveries. We estimate that for the year as a whole, underlying resid consumption by electric utilities increased a slight 1-2 percent over 1992.

Although resid prices became more competitive with natural gas prices during the second half of the year, both fuels were supplanted in part by increased generation from nuclear power, coal, and hydroelectricity. In the Northeast, where approximately half of the area's net electricity output is sourced from nuclear power, electricity output generated from nuclear power is estimated to have increased approximately 16 percent over 1992. In Florida, where approximately 65 percent of all electricity output is generated from coal, coal-sourced generation is estimated to have increased 8-10 percent.

Other Oils

PREVIOUS GROWTH REVERSED IN 1993. After increases of nearly 2 percent in 1991 and 4 percent in 1992, deliveries of "other oils" slipped in 1993. The 1.2 percent decline still left deliveries for this group about 2.5 percent higher than two years previously. Deliveries of many of the products in the "other oils" category, other than asphalt, fared less well in 1993 than in 1992 in terms of year-to-year growth.

The two largest contributors to the decline for "other oils" where liquefied petroleum gases, deliveries of which fell an estimated 3 percent following a 4 percent rise in 1992, and petroleum coke, which dropped roughly 5 percent from the prior year's unusually high levels. Deliveries of asphalt are estimated to have risen about 4 percent. As for petrochemicals, activity was modest in 1993. Although deliveries of ethane and gasoil-based petrochemical feedstocks rose moderately for the year, naphtha-based feedstock deliveries fell an estimated 15 percent.

SUPPLY

Production

OUTPUT FALLS. For 1993 as a whole, total domestic crude oil production's decline accelerated to 4.3 percent, or more than 300 thousand B/D, from a 3.3 percent, 245 thousand B/D drop in 1992. Production for the year, at less than 6.9 million B/D, was at its lowest level since 1958, and down 29 percent from peak output of over 9.6 million B/D in 1970. However, the decline rate lessened

by the fourth quarter to 2.6 percent, or 180 thousand B/D, because of several developments.

In Alaska, the coming onstream during October of GHX-2, a gas-handling facility on the North Slope, added production capability of about 50 thousand B/D at its current stage of completion. Start-up of the Point McIntyre field late in the year added another 80-100 thousand B/D to Alaskan production capability. As a result, year-to-year declines in Alaskan production shrank from nearly 9 percent or 400 thousand B/D in the first half of the year to only 2.3 percent in the fourth quarter. Year-end production there actually came close to matching that of a year ago. For the year, Alaskan production nevertheless dropped 7.5 percent or 130 thousand B/D.

In the lower 48, the first half's 250 thousand B/D, 4.5 percent drop moderated to about 140 thousand B/D, or 2.7 percent, by the fourth quarter. (Although the third quarter's decline was a lesser 90 thousand B/D, this was partly because of depressed production in the year-ago period due to the temporary effects of Hurricane Andrew on Gulf Coast operations.) Part of the moderation in the decline in the latter part of 1993 could be attributed to increased production at offshore California's Point Arguello. With resolution of permitting issues that had tied up production there for years, output rose from around 45 thousand B/D mid-year to 90 thousand B/D or so near year-end.

For the year as a whole, however, lower 48 production fell over 180 thousand B/D or 3.3 percent, slightly greater than 1992's 160 thousand B/D drop. At 5.3 million B/D, lower 48 output was nearly 45 percent less than the 9.4 million B/D produced in 1970 and at its lowest level since 1949. Given current rates of drilling and other upstream activity, the current rate of decline in the lower 48 appears to continue in the 150-200 thousand B/D range.

Drilling activity, though down 15 percent in the fourth quarter from above-trend levels a year ago, was still up 4 percent for the year on the strength of natural gas drilling. The most recent API drilling data show that while 1993's oil completions fell 8 percent, for their third annual decline in a row, gas completions rose 16 percent. Nevertheless, total wells drilled in 1993, at just under 25,000, were less than a third of the nearly 90,000 drilled in the peak year 1981.

In exploratory drilling, oil completions dropped 13 percent for the year to 435, continuing the decline of recent years, while exploratory gas completions reversed their prior dropoff with a rise of over 30 percent to 538. Total exploratory drilling, including dry holes, slipped 2 percent for the year. Exploratory oil and gas completions for 1993 were still far below the more than 2,500 drilled of each in 1981.

Imports

IMPORTS' SHARE REACHES NEARLY 50 PERCENT IN 1993.

Increasing for the second time in two years, total imports of crude oil and refined products during 1993 rose by 7.8 percent to 8.5 million B/D. Although roughly 40 percent of the 616 thousand B/D growth reflects a rebuilding of inventories after a net draw in 1992, the continued trends of declining crude production and rising, albeit barely, demand for refined products remain a major cause for growing imports. After adjusting for the change in stocks between 1992 and 1993, we estimate that the underlying growth in imports was about 4-5 percent, or roughly 360 thousand B/D.

The increase in total imports was the result of a 10.7 percent, 647 thousand B/D rise in crude imports that offset the nearly 1.7 percent, 31 thousand B/D decrease in total refined product imports. With gasoline and distillate imports falling 18 and 17 percent, respectively, they offset the 14 percent, 10 thousand B/D increase in jet-kerosine imports. Given the weak demand for residual fuel, imports of resid declined 5.3 percent between 1992 and 1993.

As a share of total domestic deliveries, the 1993 imports represented 49.5 percent of total domestic deliveries. This was a record high, surpassing the previous high of 47.7 percent in 1977. Although the import share has been rising since the end of the Persian Gulf War, the increasing amount of imports are being calculated on the basis of shrinking deliveries. Total deliveries for refined products declined steadily between from 17.3 million B/D in 1988 to 16.7 million B/D in 1991. At 17.2 million B/D, 1993 deliveries remain below the 1988 level.

Refinery Operations

UTILIZATION AVERAGES OVER 91 PERCENT.

Refinery activity, as measured by input to distillation units, rose by 2 percent in 1993, measurably stronger than the 0.7 percent increase in 1992 and its largest year-to-year gain in five years. Estimated refinery capacity, however, fell by about the same proportion as inputs rose. As a result, the utilization rate for U.S. refineries reached 91.5 percent, the highest level in at least twenty years. Fourth quarter inputs were also up by roughly the same percentage.

Output of major light products grew at the expense of heavier products in 1993. While residual fuel oil production dropped more than 7 percent, the year's gasoline output, including downstream blending of oxygenates, rose 2.7 percent. In the fourth quarter, reflecting the winter oxygenate season, production of oxygenated gasoline climbed to nearly 2.2 million B/D, or almost 30 percent of all output.

For distillate, the implementation of new low-sulfur requirements for on-highway diesel added to processing demand on refiners. Nevertheless, distillate production rose more than 5 percent for the year, and was up nearly 7 percent during the second half of 1993. Production of low-sulfur diesel rose from around 10 percent of output at the beginning of the year to more than half in the fourth quarter, or nearly 1.8 million B/D. Kerosine jet fuel production rose 4.5 percent for the year.

Capacity for additional processing beyond the initial distillation step has long been an important part of overall refining investment, and the role of downstream units has continued to grow. For 1993, according to Department of Energy data, downstream processing rose more or less in tandem with overall refinery activity. But over the longer term, the increasing demands on refiners to produce cleaner fuels, along with the declining quality of crude oil, has translated into a more-than-proportional increase in the intensity of processing. While basic distillation has risen about 3 percent, on net, over the past five years, feeds to cat crackers have risen 8 percent, hydro crackers, 13 percent, and coking units, 10 percent, all in an effort to increase yields of gasoline components and other light products.

Inventories

BOTH CRUDE AND PRODUCT STOCKS UP VERSUS A YEAR AGO.

With December's less-than-usual decline of 21 million barrels, total inventories ended the year 63 million barrels higher than for 1992. At 1.080 billion barrels, they were at their highest year-end level since 1986.

Crude stocks contributed 22 million barrels to the year-to-year increase. December's 3 million barrel rise put the year-end total at 341 million barrels, at the high end of the roughly 320-340 range experienced in recent Decembers.

Distillate stocks, too, were also at the high end of the recent-year range, at 145 million barrels. Although with the advent of the low-sulfur/high-sulfur split, the need for segregated storage has likely raised minimum operating inventories to some degree, year-end distillate stocks still appeared to be more than adequate. Excluding the East Coast, where highway diesel demand is proportionally smaller and heating oil demand higher, low-sulfur diesel accounted for 55 percent of distillate inventories. The East Coast's 30 percent figure pulled down the national average share for low-sulfur diesel inventories to about 45 percent.

Gasoline stocks, including blending components, rose 3 million barrels during December to 225 million barrels, up 9 million barrels from one year earlier. For finished gasoline, about 16 percent of the year-end stock levels of 183 million barrels consisted of oxygenated gasoline.

Twenty years after the Arab Oil Embargo

The year 1993 marks the twentieth anniversary of the oil embargo by members of the Organization of Arab Petroleum Exporting Countries against the U.S. and the Netherlands, an event which has come to be regarded as a watershed event in U.S. energy history. A brief look at the U.S. oil market now versus twenty years ago reveals the following:

Total energy consumption has grown only moderately. Although the U.S. economy has grown by nearly 60 percent over the past twenty years, energy consumption has grown only about 13 percent. Over the 1950s and 60s, growth in energy consumption had roughly matched that of the economy—about 3.5 percent per year. In recent years, the ties between economic growth and energy consumption have again become more apparent, though growth in energy consumption has still been slower than economic growth.

Total petroleum consumption has barely changed. Total U.S. petroleum consumption in 1993, at 17.2 million B/D, actually fell slightly short of 1973 consumption of 17.3 million B/D. Although substitution of other fuels (primarily coal and nuclear energy) accounts for part of this result, substantial conservation efforts played the largest role. Furthermore, the growth rate in consumption has fallen dramatically. Petroleum consumption had increased nearly 6 percent in 1973 compared with the prior year, following an increase of more than 7.5 percent in 1972. But for 1992 and 1993, petroleum's growth rate has averaged about 1 percent per year

The character of petroleum consumption has changed. Primarily because of the switch to other fuels by electric utilities, industry, and commercial buildings, deliveries of residual fuel oil plummeted by nearly 1.8 million B/D over the past twenty years to not much more than a third of their 1973 level. Meanwhile, the swelling of commercial air travel to 750 billion air-miles, nearly two-and-a-half times as large now as then, led to a more than 60 percent increase in kerosine jet fuel consumption.

Gasoline consumption, despite an increase in passenger car travel of roughly 50 percent, rose only about 12 percent. And for distillate fuel oil, although there was little net change in the total, end-use patterns changed dramatically. Heating oil usage fell by half due to both conservation and switching to other fuels, while highway diesel consumption, spurred by the demands of a growing economy and increasing use of diesel engines, doubled. Highway diesel's share has risen from about 20 percent of distillate fuel oil consumption to nearly half.

Domestic crude oil production has fallen. Over the past twenty years, crude oil production in the lower 48 has fallen over 40 percent—a drop of 3.7 million B/D from the 9.0 million B/D produced in 1973. New production in Alaska, beginning with the Prudhoe Bay field which came on stream in 1977, softened that decline, with production from that state rising from a few hundred thousand B/D to 1.6 million B/D last year. Nevertheless, on net, U.S. crude oil production has still fallen 2.3 million B/D or over 25 percent since the year of the embargo.

Imports have risen. Although petroleum demand in 1993 was, if anything, slightly less than in 1973, the fall in domestic supplies has led to higher imports. Over the twenty-year period, total petroleum imports have risen from 6.3 million B/D to 8.5 million B/D, an increase of 37 percent. Imports' share of domestic deliveries has risen from 36 percent to nearly 50 percent.

Petroleum refining has become more complex. Although crude runs, on net, have risen only about 10 percent in twenty years, the demands on refiners have changed dramatically. Demand for light products has increased relative to heavier products while crude oil has tended to get heavier and more sour. Additional product requirements such as for lead phasedown and for lower sulfur content have increased the amount of processing necessary per barrel processed.

The means for coping with supply disruptions has changed. For one, the U.S. now has nearly 600 million barrels of crude oil in the Strategic Petroleum Reserve, enough to replace 2 million B/D of imports for 10 months. Financial markets have also evolved to provide more flexibility in coping with price variation. And the petroleum price controls and allocation rules in effect in 1973, which had served to exacerbate the shortage and distort product markets of the day, are long gone.

	1973	1993	Percent change
Real Gross Domestic Product ($billions)	3,269	5,124e	56.8%
Energy consumption (quadrillion BTU)	74.3	84.0e	13.0%
Total petroleum deliveries (million B/D)	17.3	17.2	-0.8%
Motor gasoline	6.7	7.5	2.2%
Distillate	3.1	3.0	-1.6%
Kerosine jet fuel	0.8	1.4	60.7%
Residual fuel oil	2.8	1.0	-63.7%
Crude oil production	9.2	6.9	25.5%
Total imports	6.3	8.5	35.8%
Crude runs	12.4	13.6	9.5%

e: estimated

ESTIMATED UNITED STATES PETROLEUM BALANCE[1]
(Daily average in thousands of 42 gallon barrels)

Disposition and Supply	December			YEAR-TO-DATE		
	1993[2]	1992[3]	% Change	1993[4]	1992[3]	% Change
Disposition:						
Total motor gasoline	7,696	7,562	1.8	7,488	7,376	1.5
Finished oxygenated	2,080	na	na	1,191	na	na
Finished reformulated	0	na	na	0	na	na
Finished other	5,616	na	na	6,297	na	na
Naphtha-jet	84	143	(41.3)	115	144	(20.1)
Kerosine-jet	1,427	1,410	1.2	1,353	1,310	3.3
Distillate fuel oil	3,376	3,316	1.8	3,042	2,979	2.1
≤ 0.05 percent sulfur	1,766	na	na	778	na	na
> 0.05 percent sulfur	1,610	na	na	2,264	na	na
Residual fuel oil	1,022	1,312	(22.1)	1,025	1,094	(6.3)
All other oils (including crude losses)	4,384	4,495	(2.5)	4,311	4,365	(1.2)
Reclassified[5]	-195	-210	na	-171	-166	na
Total domestic products supplied	17,794	18,028	(1.3)	17,163	17,102	0.4
Exports	1,084	1,237	(12.4)	985	950	3.7
Total disposition	18,878	19,265	(2.0)	18,148	18,052	0.5
Supply:						
Domestic liquids production:						
Crude oil (including condensate)	6,903	7,103	(2.8)	6,860	7,171	(4.3)
Natural gas liquids	1,740	1,744	(0.2)	1,745	1,697	2.8
Other supply[6]	1,171	1,142	2.5	1,220	1,220	0.0
Total domestic supply	9,814	9,989	(1.8)	9,825	10,088	(2.6)
Imports:						
Crude oil (excluding SPR imports)	6,722	5,937	13.2	6,720	6,073	10.7
From Canada	972	816	19.1	903	797	13.3
All other	5,750	5,121	12.3	5,817	5,276	10.3
Products	1,655	1,901	(12.9)	1,774	1,805	(1.7)
Residual fuel oil	391	481	(18.7)	355	375	(5.3)
All other	1,264	1,420	(11.0)	1,419	1,430	(0.8)
Total imports	8,377	7,838	6.9	8,494	7,878	7.8
Total supply	18,191	17,827	2.0	18,319	17,966	2.0
Stock change, all oils	-687	-1,438	na	+171	-86	na
Refinery Operations:						
Input to crude distillation units	13,882	13,400	3.6	13,867	13,600	2.0
Operable capacity	15,145	15,311	(1.1)	15,157	15,459	(2.0)
Refinery utilization[7]	91.7	87.5	na	91.5	88.0	na
Crude oil runs	13,617	13,194	3.2	13,613	13,411	1.5

	December 1993	November 1993	December 1992	% Change From Month Ago	% Change From Year ago
Stocks (at month-end, in millions of barrels):					
Crude oil (excluding SPR stocks)	340.6	338.1[R]	318.1	0.7	7.1
Unfinished oils	90.8	95.6	95.3	(5.0)	(4.7)
Total motor gasoline	224.8	221.4[R]	216.3	1.5	3.9
Finished oxygenated	29.7	29.5	na	0.7	na
Finished reformulated	0.0	0.0	na	na	na
Finished other	153.7	152.0[R]	na	1.1	na
Blending components	41.4	39.9	38.7	3.8	7.0
Naphtha-jet	2.6	2.9	4.4	(10.3)	(40.9)
Kerosine-jet	38.7	38.4	38.6	0.8	0.3
Distillate fuel oil	144.5	144.6	140.6	(0.1)	2.8
≤ 0.05 percent sulfur	63.2	62.7	na	0.8	na
> 0.05 percent sulfur	81.3	81.9	na	(0.7)	na
Residual fuel oil	46.3	45.4	42.6	2.0	8.7
All other oils	191.6	214.8[R]	161.4	(10.8)	18.7
Total all oils	1,079.9	1,101.2[R]	1,017.3	(1.9)	6.2

1—Total supply, i.e., production plus imports adjusted for net stock change is equal to total disposition from primary storage. Total disposition from primary storage less exports equals total domestic products supplied. Information contained in this report is derived from information published in the API *Weekly Statistical Bulletin* and is based on historical analysis of the industry. All data reflect the most current information available to the API and include all previously published revisions. **2**—Based on API estimated data converted to a monthly basis. **3**—Source: U.S. Energy Information Administration (including any adjustments). **4**—Data for most current two months are API estimates. Other data come from U.S. Energy Information Administration (including any adjustments). **5**—An adjustment to avoid double counting resulting from differences in product classifications among different refineries and blenders. **6**—Includes unaccounted-for crude oil, withdrawals from the SPR when they occur, processing gain, field production of other hydrocarbons and alcohol, and downstream blending of ethanol. **7**—Represents "Input to crude oil distillation units" as a percent of "Operable capacity". **R**—Revised.

ESTIMATED UNITED STATES PETROLEUM BALANCE[1]
(Daily average in thousands of 42 gallon barrels)

Disposition and Supply	4th Quarter 1993[3]	4th Quarter 1992[2]	% Change
Disposition:			
Total motor gasoline	7,552	7,409	1.9
Finished oxygenated	2,062	na	na
Finished reformulated	0	na	na
Finished other	5,490	na	na
Naphtha-jet	85	142	(40.1)
Kerosine-jet	1,372	1,378	(0.4)
Distillate fuel oil	3,212	3,102	3.6
≤ 0.05 percent sulfur	1,657	na	na
> 0.05 percent sulfur	1,555	na	na
Residual fuel oil	979	1,156	(15.3)
All other oils (including crude losses)	4,454	4,544	(2.0)
Reclassified[4]	-182	-149	na
Total domestic products supplied	17,472	17,582	(0.6)
Exports	971	1,046	(7.2)
Total disposition	18,443	18,628	(1.0)
Supply:			
Domestic liquids production:			
Crude oil (including condensate)	6,903	7,085	(2.6)
Natural gas liquids	1,743	1,740	0.2
Other supply[5]	1,088	1,235	(11.9)
Total domestic supply	9,734	10,060	(3.2)
Imports:			
Crude oil (excluding SPR imports)	6,987	6,236	12.0
From Canada	971	787	23.4
All other	6,016	5,449	10.4
Products	1,768	1,821	(2.9)
Residual fuel oil	361	423	(14.7)
All other	1,407	1,398	0.6
Total imports	8,755	8,057	8.7
Total supply	18,489	18,117	2.1
Stock change, all oils	+46	-511	na
Refinery Operations:			
Input to crude distillation units	13,905	13,613	2.2
Operable capacity	15,158	15,301	(0.9)
Refinery utilization[6]	91.7	89.0	na
Crude oil runs	13,677	13,440	1.8

	4th Quarter 1993[3]	4th Quarter 1992[2]	% Change
Stocks (at quarter-end, in millions of barrels):			
Crude oil (excluding SPR stocks)	340.6	318.1	7.1
Unfinished oils	90.8	95.3	(4.7)
Total motor gasoline	224.8	216.3	3.9
Finished oxygenated	29.7	na	na
Finished reformulated	0.	na	na
Finished other	153.7	na	na
Blending components	41.4	38.7	7.0
Naphtha-jet	2.6	4.4	(40.9)
Kerosine-jet	38.7	38.6	0.3
Distillate fuel oil	144.5	140.6	2.8
≤ 0.05 percent sulfur	63.2	na	na
> 0.05 percent sulfur	81.3	na	na
Residual fuel oil	46.3	42.6	8.7
All other oils	191.6	161.4	18.7
Total all oils	1,079.9	1,017.3	6.2

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